

CALIFORNIA REGIONAL WATER QUALITY CONTROL REGIONAL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2007-XXXX

WASTE DISCHARGE REQUIREMENTS

FOR  
GRANITE CONSTRUCTION COMPANY  
RIO DEL ORO FACILITY  
WATER SUPPLY WELL TREATMENT SYSTEM DISCHARGES  
SACRAMENTO COUNTY



The California Regional Water Quality Control Regional Board, Central Valley Region, (hereafter Regional Board) finds that:

1. On 7 September 2006, Granite Construction Company (hereafter Discharger) submitted a Report of Waste Discharge (RWD) for a groundwater treatment facility to treat and use groundwater extracted at a non-potable water supply well on the Inactive Rancho Cordova Test Site (IRCTS). Supplemental information was submitted on 27 October 2007. The extracted groundwater will be used for dust control purposes only.
2. For the purposes of this Order, the groundwater treatment facility (GWTF) shall mean the groundwater treatment plant and the designated discharge facilities. The facility site location is shown on Attachment A, which is attached hereto and made part of this Order by reference.
3. The GWTF for the well is located on the IRCSTS that is slated to be the Rio Del Oro residential and commercial development south of White Rock Road and north of Douglas Road in Rancho Cordova, in Section 4, T8N, R7E MDB&M. The location of the well, treatment system and discharge area is on property owned by the Aerojet-General Corporation (Aerojet), Assessor's parcel No. 072-0370-070-0000. The well and treatment facility is at latitude 38°58' north, longitude 121°22' west. The application area is shown on Attachment B, which is attached hereto and made part of this Order by reference.
4. Groundwater pollution emanating from sources on the Inactive Rancho Cordova Test site have been detected in the water supply well to be used. The pollution consists primarily of elevated concentrations of the volatile organic constituents (VOCs) trichloroethylene (TCE) and tetrachloroethylene (PCE), and perchlorate, a component of solid rocket fuel. Concentrations of TCE and PCE in the well are currently 8.1 micrograms per liter (ug/L) and 1.1 ug/L, respectively. There are no detectable concentrations of perchlorate in the well. The well, designated by its owner Aerojet as Well 1054, previously served as water supply for rocket testing activities by the McDonnell-Douglas Company and for ranching purposes in the vicinity of the well. The area is currently planned to be converted to a large housing tract that will be part of the Rio Del Oro development.
5. The Discharger will be conducting mining and processing of tailings on the property prior to development. The mining process will remove tailings piles that consist of cobbles mixed with sand and gravel, and some silts and clay. The tailings piles are from 5-75 feet in height and 100-300 feet in width at the base. All material mined at the site will be

processed by a portable crushing and screening plant that will work its way across the site as mining progresses. No washing of materials or water usage for processing purposes will occur. Water use from the well will be for dust control purposes only. The water, once treated as described below, will be stored in an above-ground 10,000 gallon overhead water tank. Water will be transferred from the tank into a water tank and sprayed around the site for dust control.

### **Well Treatment Facility and Discharge**

6. The water supply well will be used to produce up to 100 gallons per minute (gpm), 8-20 hours per day and 5 days per week. The treatment system is designed to treat a continuous flow of 100 gpm.
7. The Primary Drinking Water Standard for TCE is 5.0 ug/L and the Public Health Goal is 0.8 ug/L. The Primary Drinking Water Standard for PCE is also 5.0 ug/L, with a Public Health Goal of 0.07 ug/L.
8. The initial treatment system consists of two granular activated carbon (GAC) vessels operated in series. GAC has been demonstrated to cost-effectively remove TCE and PCE below 0.5 ug/L. When concentrations of TCE and/or PCE in the effluent of the lead vessel equal concentrations in the influent to the lead vessels, the lead and lag vessels will be switched and the GAC replaced in the former lead vessel. The spent carbon is transported to a permitted facility for reactivation and destruction of the adsorbed VOCs. It is estimated that the carbon in each vessel can last up to 2.6 years.
9. If needed, treatment facilities for the removal of perchlorate will be added to the GWTF. The perchlorate removal would consist of two ion exchange vessels operated in series in a manner similar to that used for the GAC vessels. Perchlorate is sorbed onto the resin and the resin is changed out when it no longer can remove perchlorate to the effluent limitation. Ion exchange has been demonstrated to effectively remove perchlorate to less than 4 ug/L. The current Public Health Goal and draft MCL for perchlorate is 6 ug/L. Upgradient concentrations of perchlorate in groundwater and monitoring of the well will be used to determine when it is appropriate to install the ion exchange vessels.

### **Groundwater Degradation**

10. State Water Resources Control Regional Board (SWRCB) Resolution No. 68-16 (hereafter Resolution No. 68-16 or the "Antidegradation Policy") requires the Regional Board in regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's policies (e.g., quality that exceeds water quality objectives).
11. The discharge will consist of extracted groundwater being treated to remove the VOCs and placed on ground. Given the application of the treated water is applied at low rates only for dust control, and the fact that groundwater is over 100-feet below ground surface, it is

extremely unlikely that the treated groundwater will recharge groundwater. However, if recharge does occur, the recharge water will be of similar quality as the groundwater to which it is being recharged since the recharge water is being returned to the aquifer from which it was extracted and after having the pollutants of concern removed. Therefore, no degradation of the groundwater will occur due to the discharge. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution No. 68-16.

12. This Order does not require that the Dischargers conduct groundwater monitoring. Groundwater monitoring and analyses are already required under orders issued by the Regional Board and Department of Toxic Substances Control (DTSC), with oversight by DTSC and Regional Board staff.

### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

13. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Regional Board. These requirements implement the Basin Plan.
14. Surface water drainage is to Morrison Creek, tributary to Stone Lakes, tributary to the Sacramento River. The beneficial uses of the Sacramento River are municipal and domestic supply; agricultural irrigation and stock watering supply; process and service industrial supply; contact recreation, other noncontact recreation; warm and cold freshwater habitat; warm and cold migration; warm water spawning; wildlife habitat; and navigation.
15. The beneficial uses of the underlying groundwater are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
16. The Basin Plan establishes numerical and narrative water quality objectives for surface and groundwater within the basin, and recognizes that water quality objectives are achieved primarily through the Regional Board's adoption of waste discharge requirements and enforcement orders. Where numerical water quality objectives are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative water quality objectives is required, the Regional Board will, on a case-by-case basis, adopt numerical limitations in orders, which will implement the narrative objectives to protect beneficial uses of the waters of the state.
17. The Basin Plan identifies numerical water quality objectives for waters designated as municipal supply. These are the maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated

provisions as the changes take effect. The Basin Plan recognizes that the Regional Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

18. The Basin Plan contains narrative water quality objectives for chemical constituents, tastes and odors, and toxicity. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants or animals. The chemical constituent objective requires that groundwater shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The tastes and odors objective requires that groundwater shall not contain tastes or odors producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
19. On XX XXXXXX 2007, in accordance with the California Environmental Quality Act (CCR, Title 14, Section 15261 et. seq.), the City of Rancho Cordova certified a Mitigated Negative Declaration for the Discharger's proposed mining operation and well treatment system.
20. Section 13267(b) of the California Water Code provides, in pertinent part, that: "In conducting an investigation specified in subdivision (a), the regional Regional Board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports." The monitoring and reporting program and technical reports required by this Order and the attached "Monitoring and Reporting Program, Order No. R5-2007-XXXX" are necessary to assure compliance with these waste discharge requirements. The Dischargers operate the facility that discharges the waste subject to this Order.
21. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the Discharger or county pursuant to Water Code section 13801, apply to all extraction and monitor wells.
22. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27. While the GWTFs are exempt from Title 27 (27CCR, Section 20090(b)), the data analysis methods of Title 27 are appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.

23. Pursuant to Water Code section 13263(g), subdivision (g), all discharges of waste into waters of the state is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge. Pursuant to Water Code section 13050, subdivision (e), "waters of the state" means any surface water or groundwater, including saline waters, within the boundaries of the state.

### **Public Notice**

24. The Regional Board considered all the above findings and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, in establishing the following conditions of discharge.
25. The Regional Board has notified the Dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
26. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that Granite Construction Company, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

#### **A. Discharge Prohibitions**

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated or partially treated waste is prohibited.
3. Discharge of waste classified as 'hazardous' under 23 CCR section 2521 or 'designated', as defined in Water Code section 13173 is prohibited.

#### **B. Discharge Specifications**

1. The flow shall not exceed shall not exceed 100 gallons per minute from the treatment system (the design capacity of the treatment system).
2. The flow from the treatment system shall not exceed 120,000 gallons per day.
3. Objectionable odor originating at the facility shall not be perceivable beyond the limits of the property owned by the Dischargers.
4. The discharge shall only be in a manner as described in Finding Nos. 4 and 5.

### C. Effluent Limitations

1. Treated effluent discharged from the GWTF shall be less than the following limits:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>Daily Maximum</u>
TCE	ug/L	0.8	1.6
PCE	ug/L	0.5	1.0
perchlorate	ug/L	4.0	6.0

### D. Activated Carbon and Ion Exchange Resin Disposal Specifications

1. Transportation and disposal of GAC and ion exchange resin shall be only by a permitted hauler and disposed at a permitted regeneration/disposal facility.

### E. Provisions

1. All of the following reports shall be submitted pursuant to Water Code section 13267 of the California Water Code and shall be prepared as described by Provision 4.
  - a. Within **30-days following completion of construction**, the Dischargers shall submit Operation and Maintenance (O&M) Plans for each of the groundwater treatment facilities. The O&M Plans shall instruct field personnel on how to manage the day-to-day discharge operations to comply with the terms and conditions of this Order and how to make field adjustments, as necessary. A copy of the O&M Plans shall be kept at the facilities for reference by operating personnel. Key personnel shall be familiar with its contents.

### OTHER REPORTS

2. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain work plans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Dischargers shall contain a statement of qualifications of the responsible licensed professional(s) as well as the professional's signature and/or stamp of the seal.
3. The Discharger shall comply with the Monitoring and Reporting Program No. R5-2007-XXXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

4. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
5. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with discharge limits specified in this order.
6. As described in the Standard Provisions, the Dischargers shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
7. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
8. The Discharger shall submit to the Regional Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board in writing when it returns to compliance with the time schedule.
9. In the event of any change in control or ownership of land or waste discharge facilities described herein, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.
10. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Regional Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
11. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or recession of this Order.
12. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

13. The Regional Board will review this Order periodically and will revise requirements when necessary.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Regional Board, Central Valley Region, on XX XXXXXX 2007.

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PAMELA C. CREEDON, Executive Officer

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